ELECTRONIC ACCESSORY DEVICE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 62/221,576, filed on Sep. 21, 2015, which is incorporated by reference herein in its entirety for all purposes.

FIELD

[0002] The embodiments described herein relate generally to portable computing devices. More particularly, the present embodiments relate to an accessory device that can extend functionality of a portable computing device.

BACKGROUND

[0003] The appearance of a portable computing device, including its design and its heft, is important to a user, as the outward appearance contributes to the overall impression that the user has of the portable computing device. However, due to restrictive amount of available space, the portable computing device can require additional resources to provide extended functionality.

SUMMARY

[0004] Embodiments of an accessory that can be used to expand a suite of functions and operational resources available to a portable computing device are disclosed.

[0005] In an embodiment, an accessory device can have limited or no data processing resources. The accessory device can have a form factor corresponding to a laptop computer and as such can include data output resources such as a visual display and input resources such as a keyboard. The accessory device can also include memory resources. The accessory device can include a port having a connection mechanism arranged to facilitate a communication channel between the accessory device and a host device. In this way, the host device utilizes resources provided by the accessory device.

[0006] An accessory device includes a body having a docking port suitable for accepting a host device and arranged to carry operational components and a communication port that facilitates formation of a communication channel between the host device and at least one of the operational components where the host device provides substantially all processing resources and has full access to the at least one operational component.

[0007] A cooperative assembly includes at least a host device having computational resources and a communication port, and an accessory device comprising a communication port and releasably coupled with the host device, the accessory device being incapable of stand-alone intensive computational processing. The host device and the accessory device operate together as a single computational entity, and the host device carries out substantially all intensive computational processing.

[0008] A method is carried out by receiving a host device at a accessory device, forming a communication channel between the host device and the accessory device, and controlling an operation of the accessory device by the host device.

[0009] Other apparatuses, methods, features and advantages of the disclosure will be or will become apparent to one with skill in the art upon examination of the following figures and detailed description. It is intended that all such additional systems, methods, features and advantages be included within this description, be within the scope of the disclosure, and be protected by the accompanying claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The included drawings are for illustrative purposes and serve only to provide examples of possible structures and arrangements for the disclosed apparatuses, assemblies, methods, and systems. These drawings in no way limit any changes in form and detail that may be made to the disclosure by one skilled in the art without departing from the spirit and scope of the disclosure.

[0011] FIG. **1** shows in front facing perspective view an electronic host device decoupled from an electronic accessory device in accordance with the described embodiments.

[0012] FIG. **2** shows in front facing perspective view the electronic host device and electronic accessory device of FIG. **1** coupled together in accordance with the described embodiments.

[0013] FIG. **3** shows in front facing perspective view the electronic host device and electronic accessory device of FIG. **1** coupled together in an alternative orientation in accordance with the described embodiments.

[0014] FIG. **4** shows in front facing perspective view an alternative host device coupled together with an alternative accessory device in accordance with the described embodiments.

[0015] FIG. **5** shows a flowchart detailing a method of enhancing an electronic host device in accordance with the described embodiments.

[0016] FIG. **6** is a block diagram of an electronic device suitable for use with the described embodiments.

DETAILED DESCRIPTION

[0017] Representative applications of apparatuses and methods according to the presently described embodiments are provided in this section. These examples are being provided solely to add context and aid in the understanding of the described embodiments. It will thus be apparent to one skilled in the art that the presently described embodiments can be practiced without some or all of these specific details. In other instances, well known process steps have not been described in detail in order to avoid unnecessarily obscuring the presently described embodiments. Other applications are possible, such that the following examples should not be taken as limiting.

[0018] The following relates to an electronic accessory device that can be used to extend functionality, including input/output resources, of a separate host electronic device, which can be a portable computing device. In various embodiments, the electronic accessory device can be considered a "thin" device, in that it extends the functionality of another device but is inoperable by itself as a stand-alone device. As such, the accessory device can have little or no independent processing resources in the form of a CPU or similar comprehensive processor. The accessory device, however, can provide auxiliary processing resources, such a graphical processing unit, or GPU, or other processing resources that can support the functions of the portable computing device. However, in the context of this discussion, it is anticipated that the accessory device is not a